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ABSTRACT

The two papers focus on methods of selecting toys for handicapped children and options in playground equipment for this population. The qualities of a good toy, such as stimulation and safety, are examined. The author discusses various considerations in selecting toys for different handicaps; for example, toys for visually impaired children should employ bold graphics in non-glaring, high contrast colors. The use of other sources of play value, such as baths and textures of materials used in the home, is explored. The second paper reviews the considerations in choosing playground equipment, which include cost, space, users' abilities, availability, selection, and alternatives (if nothing suits). The author comments on nine types of playground equipment: swings, horizontal ladders, whirls, sand areas, climbers, balance beams, swinging bridges, slides, and tunnels; and presents a matrix to facilitate correct choice of equipment for individual needs. (PHR)

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People, Things, and Places for Young Children - Session T-56

Tuesday, April 24, 1979
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Selecting Toys for Handicapped Children
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Playgrounds for Exceptional Children: Considering the Options
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Presented at the 57th Annual International Convention of The Council for Exceptional Children - Dallas, April 22-27, 1979

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T-56

SELECTING TOYS FOR HANDICAPPED CHILDREN

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A school of thought that is gaining increasing support is that play as an activity is a more important part of life than work. People develop their crucially important individuality during play.....not work.[1] For infants, creative activities and free play as a means of expression are language experiences.[2] A child's range of language depends on the dimensions and stimulations of their world. Play is largely responsible for these stimulations. It is easy for us to forget that to a child almost everything is a new and unknown experience. Play generates an information flow through the child and helps him deal with the novel environment.[3] A healthy child plays 7-9 hours a day if uninterrupted. In the first six years of life a normal child will enjoy 10,000 hours of play.[4]

A child will play only as long as it is an arousing experience. There must be an element of uncertainty to be exciting for a child. The experience must be novel, complex, and dissonant. Children may play with the same toy for long periods of time or look at the same pictures over and over as long as they are continually aroused and are still discovering new things in their association with them. Children optimize their arousal in play by creating uncertainty and then reducing it. This action can be in the form of games, novel uses of toys, and fantasy situations.[5] Many so-called "educational" toys are good teaching or learning materials but are poor toys. Using them has little or nothing to do with play as the children have to follow directions and use the toy in the prescribed manner. Good "educational" toys are attractive to children for "play's" sake. Good toys stimulate learning no matter how they are associated with. The following experience of a child with a Shape Sorting Box is typical of how a toy can go through transformations of use and continue to provide learning experiences. First, the toy was used in a manner described by its' name. It then became a home for toy soldiers and eventually a play house for pet gerbils.[6]

A child will play with a toy only as long as it provides new sensorial experiences.[7] Once the sensorial possibilities of a toy are exhausted, the only remaining thing left is to discover what is inside....what makes it work. Inevitably, poor toys and some good ones are destroyed in the final act of discovery.[8] A number of toys circumvent this eventuality and enhance the play experience by allowing the internal workings to be visible through a window or conveniently placed hole.

Play activities are instrumental in the development of what is called "reading readiness". Reading readiness is the acquisition of an accumulation of mental and physical skills necessary to begin the "formal" education process. In order to acquire reading readiness, a child must be in good health and have acquired mental alertness, social adjustment, emotional stability, and the ability to "perceive sequence" and reorganize ideas. It is also essential that the child develop good work habits, an ability to concentrate, good sensory ability, and adequate motor control. All of these abilities are formed into reading readiness by a keen interest in learning.[9]

Children develop the traits of reading readiness through successful play experiences. The importance of <u>successful</u> play cannot be overemphasized.

Toys that are too complicated often produce more frustration than education.[10] Children need success in order to develop feelings of mastery and security. Failures in play can produce feelings of inadequacy and result in hesitation when confronted with future challenges. The relationship between self-confidence and successful play is closer than many parents think.[11] All to often, children are "pushed" into failure and insecurity by well-meaning parents anxious for the child's rapid development. Toys which are self-correcting help eliminate these problems. An example would be a pull toy which has no front or back and works equally well right side up or upside down. Successful play for a child also depends on constant adult recognition of accomplishments. The participation in children's play by parents helps establish a good relationship between the parent and child. When parent and child are playing with a toy that doesn't require great physical strength and size, they become equals, i.e., truckdrivers, and are able to communicate more freely and at a level understandable and comfortable for both.[12]

There are certain qualities a good toy must have whether it is for "normal" or handicapped children. (Figure 1) It should encourage children to focus their energy in a concentrated and co-ordinated way. It stimulates the discovery of new relationships. It does not have directions or a prescribed manner of playing and is safe regardless of how it is used. It generates successful play experienc[illegible]ile still offering a challenge. It is capable of being related to in a number of interesting ways, such as the Shape Sorting Box described earlier. It must excite one or more of the senses of sight, sound, touch, taste and smell. It should help develop physical and mental skills as well as stimulate the imagination. Above all else, it must be <u>fun</u> to play with.

Toys with great detail and exactness are often more exciting to parents than children. Too many colors or too much detail on a toy can be confusing or frustrating to a child. Toys are tools for children and do not need useless decoration. Incompleteness in detail is especially important in creating a challenge for the child. A block of wood in the general shape of a vehicle can become a sports car, a jeep, a truck or dad's car. A highly detailed tank is just that--a tank, and nothing else. The more suggestive a toy is of many things, the more successful it will be in stimulating imaginations and encouraging free play.[13]

As mentioned, an important consideration in selecting toys is safety. A child of five is at the most dangerous age since his curiosity is at a peak and his awareness of the danger of injury is low. Toys should be as free from injury potential as possible. Scratches, small cuts, bruises, and bumps are inevitable and are an important part of the learning process of childhood, but serious injury can result from poorly designed toys. Sharp edges should be avoided. Wood toys should be hard and unlikely to splinter. Lead paint is an obvious taboo as well as the use of other toxic materials that might find their way into a child's mouth. Toys should be large enough so that they will not enter the throat of a child and lodge in the windpipe. Electrical toys are too dangerous for young children without supervision, especially those with motors and moving parts.[14]

Now that we have an understanding of good toys for "normal" children, we can consider the special requirements of handicapped youngsters. The first thing

to note is that there are no differences in the motives of play between the two groups. Good toys for handicapped children must do for them what good toys do for normal children. Children with sensory handicaps most often fail to have successful experiences with toys which rely solely on their ~~dimensioned~~ diminished sense for stimulation. Examples of this situation would be whistles used by hearing impaired children or two dimensional puzzles used by visually impaired children. The value of these types of play materials can be increased for sensory handicapped children by selecting toys that reinforce play in several sensory modes. For example, a pull toy that has a visual (bobbing motion) as well as audio (changing) reinforcement of the pulling motion will result in a positive experience for a blind or deaf child as well as a normal one. There are many toys which feature multiple sensory stimulations and these are excellent choices for sensory impaired children. It is especially helpful for hearing impaired children to play with sound producing toys that have a visual and/or tactile reinforcement of the sound. With this reinforcement, the child is able to relate the sound that can be heard with residual hearing to the unheard sound which is interpreted through stimulation of an intact sense. The subsequent value of multi-sensory toys for children with other sensory handicaps is obvious. Because of the similarities in sensory reinforcement needs of these various groups, it often happens that a toy which is beneficial to one sensory handicapped group is good for many. An example is the Light Whistle which was developed for use by hearing impaired children. It is a whistle which reinforces the sound with a colored light that is illuminated simultaneously with the whistle sound. When the toy was tested with groups of visually impaired children, it was found that they used the sound as reinforcement of the light and derived play satisfaction equal to the hearing impaired children.

When toys that employ graphic elements are selected for visually impaired children, caution should be exercised in selecting ones with low visual contrast and small graphic elements which are hard to perceive. Subtile color variations should be avoided. Graphics should be bold and printed in non-glaring, high contrast colors. Type should be as large as practical and reinforced with texture, if possible. The American Foundation for the Blind offers a number of popular games, such as Monopoly, Backgammon and Bingo which are produced with very strong visual images and tactile reinforcement. These toys can be used successfully by visually impaired children and are excellent for "normal" children as well because of their sensory enrichment.

Play materials for the mentally retarded must combine sensory enrichment with simplicity. Toys for these children can have too much sensory stimulation and can result in confusion, anxiety and in extreme cases, panic. Toys which involve movement should be slow enough to permit visual tracking. Rapid action of a toy can be confusing and at worst be interpreted as a threatening motion. In 1971 two British designers, Roger Haydon and Jim Sandhu, developed a motion toy for mentally retarded children that consisted of a sealed transparent tube holding two ping pong balls that float in slow motion from top to bottom. The very slow movement permits visual tracking and makes no threatening movements.[15]

Children with movement impairments require additional considerations when selecting toys. Children who use wheelchairs are often frustrated with the difficulty of carrying a toy while operating the chair. Toys which are easily held or that can be readily attached to the wheelchair are preferable. The stuffed toys produced by Exceptional Play are made with a hole in them so that children can wear them like a bracelet while engaged in the activity of movement. Children who lack refinement of small motor control should have toys which are self-correcting or at least make manipulation as easy as possible. There are many puzzles available with knobs that make assembly easier for these children. Puzzles with larger than normal spaces between the pieces increase the potential for successful play experiences. Toys that encourage the further development of small motor control should be selected with avoidance of toys that require precise manipulation. An example of a construction toy that is very forgiving of small motor error is Bristol Blocks. These blocks can be literally slapped together and encourage further experimentation, discovery and small motor development. Children with manipulative problems should have toys that are relatively stable. Wheeled toys, for example, should be selected with the wheels set far apart to minimize tipping. Board games should have a backing that prevents tham from easily sliding across the table.

Children with prosthetic limbs must have toys that can be manipulated with their artificial hands. Knob shaped and rough textured surfaces are helpful. Toys should be selected that will encourage the use and subsequent control refinement of these devices by the children. A Michigan State University graduate student has designed a series of puppets that can be used with prosthetic devices. The puppets also cover the prosthetic device from view while the child is given the opportunity to practice use of the device, verbalize their feelings through the puppet and gradually accept the reality of their situation.

Finally, there are other sources of play value besides toys. Among these are the home environment (baths, watching parents cook, etc.), travel (movement, smells, rapidly changing landscape) and most of all, clothing. While clothes are not usually considered to be "toys" they certainly offer the same kinds of sensorial stimulation as many conventional toys and they are an integral part of fantasy play. An infant's first significant play experience is often the textural stimulation of the rough sheet, the plastic diaper, the soft blanket and of course, mother's touch. These experiences can be enhanced by special attention to the texture of materials used in bedding and clothing. Recently, a group of fashion and textile designers of the Finnish Association of Designers (ORNAMO) developed a collection of clothing for handicapped children. These designs incorporate a rich variety of textures and visual qualities as well as such practical ideas as a water repellant bib and removable knee pads. They feature large buttons and zippers that are easy to use. Brightly colored helmets were designed to protect the heads of children who fall easily. The helmets also serve as a costume to promote fantasy play.[16] The Dapper Dan doll is regarded as a fine toy that helps children learn to use buttons, zippers and other fasteners. It seems a short and logical step to incorporate this idea into our clothing.

Toys are a valuable part of a child's education and growth. With good toys that offer a variety of physical and mental experiences, free play becomes

a natural, enjoyable and educational experience. As toys are successfully enjoyed, confidence grows and curiosity is satisfied. Without good toys, a child becomes sensorially deprived and lacks the motivation and alertness that play creates. With knowledge of the toy characteristics that promote successful play and with sensitivity to the special needs of some, we can select toys that will help all of our children grow to their potential.

Figure 1. QUALITIES OF A GOOD TOY.....FOR ALL CHILDREN

A good toy.....

encourages children to focus their energy in a concentrated and co-ordinated way.

stimulates children to discover new relationships.

does not have directions or a prescribed manner of playing.

is safe while at the same time challenges the physical abilities of the child.

generates successful play experiences.

is capable of being related to in a number of ways....as a ball is.

stimulates the imagination.

excites one or more sense (sight, sound, touch, taste, smell).

helps develop physical and mental skills.

is <u>fun</u> to play with.

Footnotes

1. Martin Ellis, Lecture on "Play" at Northern Illinois University, DeKalb, Illinois, December 5, 1972.

2. Grace M. Harris, Language and the Preschool Deaf Child (New York: Grune and Stratton, 1963), p. 62.

3. Ellis, op. cit.

4. Creative Playthings, Guide to Good Toys (Princeton, New Jersey: Creative Playthings, 1973), p. 7.

5. Ellis, op. cit.

6. Glen Nimnicht, "The Great Toy", House Beautiful, December, 1971, p. 64.

7. Creative Playthings, op. cit., p. 13.

8. Ellis, op. cit.

9. Harris, op. cit., p. 70.

10. Hain G. Ginott, "Rationale for Selecting Toys in Play Theory", Journal of Consulting Psychology, 24:244, June, 1960.

11. Creative Playthings, op. cit., p. 15.

12. "Toy Talk", Elementary School Journal, 70:420, May 1970.

13. Creative Playthings, op. cit., p. 16.

14. "Toys in the Classroom", Safety Education, 42:2, February, 1963.

15. "Toys for the Handicapped", Time, 97:48, April 26, 1971.

16. Jane Cooper, "Bury the Differences", Design, 331:36-38, July, 1976.

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PLAYGROUNDS FOR EXCEPTIONAL CHILDREN:

CONSIDERING THE OPTIONS

Presented to
Council for Exceptional Children
57th International Convention
Dallas, Texas
April 24, 1979

By
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I am not a special educator. My wife and I founded and operate Exceptional Play, Inc. She has the technical expertise. My personal perspective is that of a businessman who is also a designer; both of playground equipment and instructional/play materials. This perspective, combined with the perspectives of the members of the audience will hopefully allow us to consider many of the options available to anyone interested in developing a playground for exceptional children.

What I want to do is view the problem from your side. If I get unduly vague about issues that you feel are important, please interrupt to offer corrections or ask for clarification.

Basically the problem of obtaining play equipment for the handicapped child can be viewed as having the following six issues —

1) Money?
   - How much money is currently available?
   - Can we influence the amount of money available by putting together a proposal or budget of needed equipment?
   - Is there any likelihood that subsequent money will become available so that a sequential design might be possible? That is; add some equipment this year, more next year, etc.

2) Space?
   - What are the space limitations?
   - Are there already pieces of equipment or natural characteristics of the space which might be retained? Which will need to be removed?

3) What are the abilities and needs of the clients?
   - Draw on OTs, PTs, classroom teachers, parents, etc.
   - Use IEPs as sources of information
   - Create hypothetical future clients if you expect significant changes in your population
   - Which needs would you acquire playground equipment to address specifically?
   - Which of these needs might be addressed in the event that you get playground equipment?

   To the extent that you can accurately identify the needs of each client, you will be in a better position to purchase equipment which will better serve them. And you will be in a much better position to justify any necessary expenditure to potential sources of funding.

4) What's available?

Obtain catalogs from as many manufacturers as possible. The companies having booths in the exhibit hall are a good place to start.

Study those catalogs in the absence of sales reps. The salesmen can often be helpful, but ultimately it is your money and your decision. You have to live with the equipment long after the salesman leaves. When it comes to choosing between pieces of equipment he offers, his recommendations might be more reliable. When it comes to choosing between acquiring a piece of his equipment, or not, his recommendation might be expected to be biased. [Actually, some manufacturers offer sales reps different commissions depending on which equipment is sold, so they may not be unbiased within their own equipment.]

Read catalogs CRITICALLY

If something isn't mentioned as a positive, it may well be a negative. Forget about adjectives such as "large", "super", "therapeutic", and the like — look to the facts; dimensions, accesses, specifications of materials. Make sure that you know how big 2½" or 38" are — have a yardstick nearby and measure out the dimensions that are important to you. If possible, ask the sales rep for nearby locations of similar equipment — and then visit! With a client, if at all possible.

If you have any questions, don't hesitate to call or write the sales rep, or better yet, the manufacturer. CAUTION: Do not expect them to answer your questions about whether their equipment is appropriate for your population. Remember that most playground manufacturers and sales reps are untrained in special education and are uncomfortable discussing the handicapped. The more severe the impairment, the more this is true. DO NOT ASK THEM FOR JUDGMENTS . . . ASK THEM ONLY FOR FACTS ABOUT THE EQUIPMENT. It is usually necessary for you to speak their language rather than vice versa.

5) What if you find one or more pieces of equipment which are of interest? Then the important issues become —

Design aspects: Does it require the skills your clients possess? Does it challenge them to develop the skills targeted for them? Is it safe?

Catalog Price: If several similar pieces are available, compare the prices listed in the catalogs. Remember that the prices shown are for that equipment sitting in the manufacturer's warehouse, not at your facility . . . and not assembled for use.

Shipping Charges: These are a function of the relative locations of the manufacturer and your facility plus the weight of the equipment. In most cases, there will not be a great deal of difference on this issue. If you think there might be, ask for quotes from the rep.

5) continued

Leadtime: How long will you have to wait once your purchase order has been sent in? This may range from a couple of weeks to a matter of several months.

Installation: By whom, at what cost? Are there detailed instructions if your staff needs to do the work? Will they send you sample instructions? Does the same guarantee apply if you install rather than their crews? The cost of installation is often quite significant. It can add as much as 50% to the catalog price.

6) What if you find nothing?

Do Without: All too often, this is the option that many individuals feel forced into. Especially when competing priorities seem more readily addressed.

Lower your standards: Maybe you're too picky! Instead of looking for the ideal piece of equipment, settle for one which "might do". BE CAREFUL if this is your choice! You are going to have to live with your decision for a long time. If you lower your standards too much, the result can not only be inappropriate, but also very dangerous.

Work with a manufacturer to design special equipment: In spite of the claims of many manufacturers, few will truly custom-design special equipment. What they mean when they say "Custom-Design Playgrounds" is that they will do site layouts for you which involve various arrangements of their existing equipment. But they still have a fixed selection of individual pieces. Others will restructure various modular components to address your needs. Depending on the extent of your differences from their "normal" market and on the flexibility of their particular modular system, these approaches may be quite helpful.

[Obviously, since I'm a manufacturer and I'm saying all this, I must believe that Exceptional Play offers something better. But that's for the exhibit hall, not for the presentation.]

Hire an independent designer or architect to design for you: This approach has three major drawbacks (at least). Professional designers will charge for the design effort whether you build the structure or not. Most designers and architects are as unfamiliar with the capabilities and limitations of the disabled as the playground manufacturers are. And, unfortunately, depending on the consultant you select, there may be more of an inclination to create something which is visually attractive to adults rather than fun, safe, and beneficial for the children.

Contact a university class in architecture, special education, or both. University classes are an interesting option and can sometimes help provide useful equipment. Enthusiasm is seldom a problem! However, the difficulties mentioned

6) Continued

for professional designers also apply (except for the fee) plus there is a problem of longevity. If the project extends beyond a given term of the course (which it almost certainly will) or if a problem develops years later, you may have no one to turn to.

Do-It-Yourself: The final option is to use volunteer help, donated materials, and your own staff to develop designs, prepare the site, and construct the play equipment. As I mentioned previously, you have the ultimate responsibility to select equipment appropriate for your clients. If you are willing to accept the same responsibility for design, selection and fabrication of materials, and installation, then the Do-It-Yourself option may be reasonable.

Recognize that <u>each</u> of these options has costs. Doing it yourself costs a great deal in your time and effort. Purchasing equipment from a catalog can be expensive in terms of money and still requires some of your time. And working with a manufacturer or designer can involve both money and time. The overall expense/value of your method of acquiring equipment depends completely on how good of a job you do at it.

So much for the general coverage of the subject. Now we need to be more specific. The basic problem in acquiring playground equipment is threefold:

1) Know your needs,
2) Know what is available, and
3) Figure out the best selection of equipment for your situation.

To help structure the problem, let's assume that our facility has four clients. Their profiles are as follows:

Andy: Down's syndrome, very poor upper body strength, regressed coordination

Betty: Autistic/Emotionally disturbed, withdrawn, regressed

Charles: Perceptual-Motor dysfunction, delayed reflex development, poor coordination

Diane: Cerebral Palsy with history of seizures, needs to increase flexibility and mobility

For each child, we need to summarize the activities they can engage in independently, the activities they can engage in with assistance, the activities which have been targeted for therapy, and the ones which are to be discouraged.

<u>CONSIDER TABLE I IN THE HANDOUT</u>

In TABLE I we have shown each of our clients as a heading for a column. In reviewing their IEPs, we decided that the activities relevant to their development were climbing, swinging, balancing, crawling, upper body, and social. Of course, some of these activities aren't appropriate for all of the children, they just include all of the activities we want to consider for any of the four children. The activities are arranged as rows. The result will be called a "Client/Activity Matrix".

In looking at Andy's evaluations and in talking with the professional staff working with him, we have decided that he can crawl and engage in social activities Independently. So we enter an "I" for Andy in the row for crawling and an "I" for Andy in the row for social. Likewise, swinging and balancing can be done, but require Assistance. Thus we enter "A" for each of those activities. And we have decided to have specific objectives for Andy to develop climbing and upper body activities. We will record those as [ ].

In following the same process for Betty, we discover that although she can crawl Independently, we are trying to discourage that so we can work on balancing as a preliminary to walking. In the Client/Activity Matrix, then, we record "XI" for crawling for Betty. The "X" indicates that the activity is to be discouraged. Notice also that all of the activities do not have entries for Betty. Swinging and upper body activities simply aren't relevant at this point in time. TABLE I shows the activity evaluations for each of the four children.

Several comments are necessary at this point:

1) Any facility is going to have more than four clients. As more clients are added, the magnitude of work involved goes up. Before you give up on the appropriateness of the analysis, recognize that the amount of work involved is also a function of (1) how well organized your information on the clients is and (2) how detailed you try to get. Perhaps you have fifty children, but they are organized into four classrooms with the children in each classroom having similarities. As a first pass, use the average description of children in each classroom as your "clients". Maybe Andy, Betty, Charles, and Diane are the teachers of those classes.

2) The activities listed are not drawn from any theory or organized framework; they were virtually randomly listed as activities which might be appropriate for playgrounds. As professionals, you are in the best position to enumerate appropriate activities for analysis. Again, notice that the level of definition of the activities is open to your judgment. For a first look, very general descriptions might be all that are necessary. Or you might have some activities very generally stated — "any type of climbing" — while others are more finely differentiated — "back-and-forth swinging", "circular swinging", "swinging while prone", etc. The basic issue is to be as specific in defining the activities as you need to be, but no more than necessary in order to save time and effort in the analysis. In some cases, deciding which activities you want in a play area may be the most important aspect of your analysis.

3) You may feel that you know the needs of your clients well enough without this "formality". If that is true, then certainly don't waste your time going through the process. On the other hand, the more clients you have, the less likely it is that you can fully know their needs and the relationships between their needs. Further, each client is served by several different professionals. To the degree that each professional's inputs are solicited and utilized, they will be more likely to use the equipment once it is acquired. In most cases, funding is problematic. If the benefits of new equipment can be demonstrated in terms of specific activities with specific clients, then funding would seem more likely. And finally, PL 94-142 requires that physical education be provided. Documentation of the appropriateness of equipment (in the form of your notes using this process) could be included directly in future IEPs to verify compliance with the regulations.

Having completed our Client/Activity Matrix, we now need to review the catalogs of equipment to see how the available pieces fit our needs. We can do this by creating a matrix having the same activities used in the Client/Activity Matrix; that is, climbing, swinging, balancing, crawling, upper body, and social. And for columns we will use various classes of playground equipment. For this example, I will discuss swings, horizontal ladders, whirls or merry-go-rounds, sand areas and tables, climbers, balance beams, swinging bridges, slides, and tunnels.

The result of this process will be what we will call an "Equipment/Activity Matrix". For each type of equipment we will record a "P" if that activity is the primary function of the equipment; an "S" if that activity is a secondary function; a "?" if there is some doubt about appropriateness of the equipment; and a blank indicates that the equipment has no use for that activity. In the event of a "?", more information needs to be acquired. Whenever possible, questionmarks should be eliminated prior to continuing the analysis. We will continue with "?s" in order to see how the answers to these questions can influence the outcome of our efforts.

At this point, I want to make a few comments about each type of equipment. I will avoid mentioning specific trade names — either on the good side or the bad. If you have questions about availability of specific pieces, I would be happy to answer your questions later.

GENERAL COMMENTS: In any review of playground equipment catalogs, you will be struck by the amount of equipment which might best be described as "cutesy". This "stuff" might have valuable properties in terms of your needs, but that benefit wasn't foremost in the minds of the people doing the design or the advertising layout. Much of this equipment is made to look like something. Often they look like something to adults and don't, necessarily, look like anything to children. In many cases, the designs overlook basic safety guidelines in the interest of appearance. The jargon used in the industry for this type of equipment is "theme". It looks like a fairy castle, or a horse, or a snail, or a stagecoach. For the older, mentally retarded clients, most of this equipment would be inappropriate because of its child-like appearance. A non-theme climber could be a mountain or a building under construction as easily as it could be a fairy castle or a stagecoach.

For most playground manufacturers, the word "handicapped" means anyone in a wheelchair. And any equipment which can accommodate a person in a wheelchair is "therapeutic". Many of the designs are ridiculous. One manufacturer provides a "Dual Purpose Picnic Table". The description reads, in part,

> "Designed so the table can be lifted and swiveled 90°, to allow total utilization for wheelchair users. The table portion is mounted on a single post — a person at each end may lift and rotate."

Given that the benches are placed far enough apart to allow a wheelchair between them, without rotation the table can accommodate six to eight people not in wheelchairs and two in wheelchairs. After two people rotate it, only the two in wheelchairs can be at all comfortable. Thus, we have required the aid of two able-bodied individuals to rotate the table, but they won't be able to join us in our picnic.

Since everyone who is handicapped is in a wheelchair, all you need to do in order to produce "Therapeutic" equipment is provide a ramp. One manufacturer produces a piece of equipment which consists of a ramp, a platform, a swinging bridge, another platform, and a slide. The description includes the following:

> "...barrier free design meets the unique needs of handicapped children. Even kids in wheelchairs can navigate this Bridge. A low incline ramp

> constructed of heavy gauge, non-skid galvanized floor plate is flanked by parallel handrails to assist youngsters to the bridge. The bridge is made secure with stationary handrails also."

So far, it sounds pretty good. Unfortunately, they haven't included dimensions of the ramp [length and height so that we can calculate the degree of incline] and they haven't told us whether the platforms are wide enough so that a child in a wheelchair can turn around if they change their mind. But the description continues in the next paragraph with —

> "Once over the bridge, it's down the 40" wide slide! The bottom of the slide bedway touches the ground. The ... Bridge gives all children good, basic movement experience."

Somehow the consideration of the child in the wheelchair was abandoned somewhere between the bridge and the slide. The rate of decent isn't described, but judging from the picture, the shock would be a rude one.

> So much for griping about the level of thought which goes into too much of the equipment you will find in your search. The basic point is that YOU must be very cautious. Do not assume that the manufacturers or sales reps know what is appropriate for your children. Everyplace you turn you will see evidence that that isn't the case.

SWINGS: For the most part, you will be more interested in the seats used than in the frameworks. The frameworks are either metal or wood and will be in an A-frame or some type of standard with radiating spokes. The biggest issues here are cost and appearance. In some cases, you can arrange swings in a circle or other configuration which will encourage social interaction. The biggest issue is whether the seats will be useable by your clients. There are two basic types of swing seats — strap seats and chair swings. Strap seats are usually slashproof rubber. Some have steel reinforcements embedded in the rubber. Strap seats require good balance and reasonable upper body. Chair swings are of several types — metal, molded fiberglass, and rubber. We have used the metal, highbacked "kindergarten" chair with good results. The molded fiberglass often are of the "cutesy" variety and rarely include measurements to allow you to decide whether your clients could use them. The strap rubber "tot seats" are often useful, but don't give any head support. At least one manufacturer offers a "safety seat" which consists of a molded fiberglass seat attached to a tubular frame. Since it doesn't use chains, its swing might be more predictable. No dimensions are given, but pictures seem to indicate that it would be right for a normal 10 to 12 year old. No provision for seat belts seems to have been made. Another unusual swing consists of a metal framework and can be propelled only with upper body action. Because of its design, uneven strength in the arms (or even the use of only one arm) will not cause it to go out of a straight line. It is basically a very secure swing and safety straps can be attached very easily. Unfortunately, a very small child cannot reach the handles used to propel the swing. With younger children, an adult can hold the child and swing using one arm. The final type of swing seat encountered is the rigid rubber or hardwood solid seat. These seats are unacceptable by any standards. They make terrific projectiles and are very unforgiving on impact.

> Let's record the activities appropriate to swings in TABLE II by showing swinging as a primary function; upper body as a secondary function; and social as a secondary function.

HORIZONTAL LADDERS: The standard horizontal ladder, whether the framework is made of metal or wood, has a horizontal section of evenly spaced metal rungs supported by verticals at either end. The means of accessing the ends can vary from a ladder to a platform. Many conventional horizontal ladders have limited usefulness because the manufacturer had to assume something about the size of the user of the equipment. How high should the last access ladder rung be? How far apart should the horizontal rungs be? If small children and large children use the same equipment, the rungs must be close enough together so that the smaller children can reach them, but far enough apart so that the bigger children can not get stuck between them. Arch climbers have attempted to resolve the first of these questions by providing a gradual transition between vertical and horizontal. Unfortunately, most children seem to use the top of the ladder (that is, as a climber) rather than as a horizontal ladder. And, if they use it as a horizontal ladder, the first stage (going up) is the most difficult. One manufacturer produces what is called a "fanned ladder" which has 26" spacing between the rungs along one side and 12" spacing along the other side. The edge with the narrower spacing presents a shorter task (about 7') and the edge with wider spacing presents a longer task (about 12½'). With variable height accesses at the ends, smaller or less skilled children can use the side with narrow spacing and larger or more skilled children can use the side with wider spacing. Furthermore, as a child develops skill, gradual adjustments are available simply by moving further and further toward the wider spacing.

> Let's record the activities appropriate to horizontal ladders in TABLE II by showing upper body as a primary activity and climbing as secondary.

WHIRLS: A wide variety of whirls are available. The conventional ones have wooden seats with handrails. "Modern" ones have solid metal bases with various handrails. Some manufacturers have "adapted" the modern whirls by removing some of the handrails and providing for chains to secure wheelchairs. These may be appropriate, but I am personally very nervous about the security provided. Also, these whirls may have a ramp to get the wheelchair onto them. Cases have been reported in which normal children have been running around the whirl to push it and hit knees and shins on the edge of the ramp; suffering serious injury. Thus, the goal of mainstreaming seems to have its pitfalls with this particular equipment. Another "close-but-not-quite" design is the addition of metal chair seats to a smooth deck of a whirl. The basic idea is a good one, but the execution is terrible. The seats have been attached facing "forward" in the rotation of the whirl. Unfortunately, there is a 50/50 chance that the whirl will be rotated backwards, thus forcing the child forward in the seats. And, as the whirl is rotated in a forwards direction, the tendancy is to throw the child sideways or outwards. The solution to this problem is to place the seats so that they face towards the center. Rotation can then go either way, speed results in the children being pressed into the seat backs, and social interaction is encouraged since the children are all facing each other. You can ask the manufacturer to arrange your whirl in this way, or you can purchase the basic whirl and several seats and arrange them yourself. One manufacturer produces a wooden superstructure which has bench seats and high-backs facing toward the center. They also provide an insert which allows children to be placed in prone or supine positions. Safety straps and bolsters are easily added. Swinging gates are also a possible source of our activities. Be careful in selecting gates, however, so that they have multiple handholds and do not have vertical bars which will entrap children's legs.

Let's record the activities appropriate to whirls in our Equipment/Activity Matrix. Notice that we haven't included "Rotation" as one of the activities of interest to us and that would seem to be the primary function of a whirl. So let's record social and upper body as secondary functions. Obviously, those whirls which have seats or accommodate wheelchairs don't fit the upper body description. We will also show a "?" under swinging. If we're talking about vestibular stimulation when we are looking for swinging, then the whirl probably fits. If we can answer the "?" right now, we should do so. We may also want to create another column; one column for whirls which have seats and one for those which don't. You can decide at this point whether that refinement is appropriate for your analysis.

SAND AREAS: Sand areas are of two basic types — ground level and tables. In many cases, ground level sand areas can be made using railroad ties. If you have other equipment, you should provide a safety surface under it. [I will say MUST PROVIDE. Fully 85% of playground injuries are caused by or aggravated by the surface onto which children fall.] A safety surface of sand, pea gravel, or wood chips (in that order of preference) will give children the ground level access to a play area. The sand or sand and water tables are an interesting option whether children are in wheelchairs or not. If we are trying to discourage Betty from crawling, standing at a sand table might be highly desired. The basic design problem faced by the manufacturers, however, is that it is difficult to get enough of an overhang to allow access to wheelchairs without getting too tipsy. One manufacturer's catalog fails to address this problem by showing a picture of a child leaning forward (indicating no need for back support), with the handrails of the wheelchair in contact with the sand table (indicating a pinch hazard), and the child's feet not on the footrests (if they were, they would have been crushed). Sand is an important addition to a play area — as is water. But don't be mislead by the catalogs. Remember to be critical; look at the pictures and look for dimensions.

Let's record social play as the primary function of the sand area. That, of course, depends on how we choose to use it. Also, its use to encourage or discourage crawling depends on whether we choose a table or a ground level area.

CLIMBERS: There is as wide a variety of climbers as you would care to see. Unfortunately, many of them are disasters. Naming of some of the manufacturers would undoubtedly lead to a libel suit. Look for metal versus wood; diameters of pipe; crossbars under climbing areas (a no-no); flat beams versus round logs; protruding bolt ends; superfluous holes. Metal may last longer with less maintenance, but it is slippery when wet, cold in the winter, and hot in the summer. Metal is also very unforgiving when hit. Wood has a better feel across a wide temperature range and generally is easier to climb on. Wood may splinter and crack, however, and the manufacturer should be questioned about the properties of their type of wood. Various varieties and qualities of woods perform very differently; all wood is not alike.

For our Equipment/Activity, let's put climbers as having a primary function of climbing and a secondary function of upper body. They might also be social, but that could depend on their use.

BALANCE BEAMS: There are lots of different kinds of balance beams; round, flat, single sections, multiple sections, curved, varying widths, varying heights, level, and inclined, fixed or moving, with or without handrails. Few manufacturers include adequate dimensions. Rather than guess about sizes, call them collect to ask about the information and then complain about its omission from their catalog. If there are similar balance beams rrom different manufacturers and one has included detailed dimensions, reward them by purchasing from them.

> Balance beams are essentially single-purpose. We'll record them on our Equipment/Activity Matrix as being only for balancing.

SWINGING BRIDGES: Swinging bridges are an interesting alternative. Generally they consist of a suspension bridge between end supports. The major issues you should take into consideration include length, width, height of railings, and degree of swinging. If the bridge is too wide, children will feel insecure since they won't be able to hold on with both hands. With large groups of children on the playground at the same time, however, a wider bridge might be desired so that children can pass. Railings should be low enough to permit secure grasping, but not so low that some children might be pushed or fall over them. The degree of swinging of the bridge may vary as a function of its length. In general, however, it is primarily the result of the particular method of construction of the bridge. Specification of the other aspects is fairly easy in a catalog. How one measures "swingingness" is much more difficult. If it is an important variable, try to visit a nearby location or get some indication from the manufacturer. In the absence of any other information, try to guess based on the methods of construction used.

> The primary function of the swinging bridge would be balance. Depending on the amount of sway to the bridge, it could also provide some swinging — especially if a child were lying on the bridge while a therapist moved the bridge back and forth or up and down. Also, depending on the means of accessing the bridge, climbing could be an appropriate activity. We will record our information in the Equipment/Activity Matrix as having questionmarks for climbing and swinging.

SLIDES: There are a variety of slides available; wide, narrow, long, short, open, enclosed, straight, curved at the bottom, etc. In general, avoid slides which don't have a curved, braking portion near the bottom. Children without a well developed protective reaction will have a rude surprise at the end of the slide . . . and probably won't use it again. Similarly, slides which have long, single accesses (such as the traditional slide) don't let the child change his mind when he sees the prospect of the long decent. There should be a large platform so that other children can go around and multiple accesses so that a graceful departure can be accomplished. A variety of "in-hill" slides are becoming available. They're much safer and can often be obtained in varying lengths to fit your particular hillside. If you don't have a hill, consider making one just to have such a slide! Wide slides are particularly nice. With higher-functioning children, a variety of "styles" of sliding are possible. With lower-functioning children, a teacher can go down with the child, holding them in their lap, or seated next to them, or on the opposite side of the slide and then sequence up to letting the child go down alone. All in all, a wide slide can be much less threatening.

> We don't have "sliding" as one of our activities. Depending on the access, climbing might be an activity — let's record it as secondary. Also, if vestibular stimulation is what we're after, we might show swinging as an activity — let's record a "?".

TUNNELS: There are few tunnels offerred by the manufacturers that are not included as part of larger climbers. In our example, Charles and Diane are targeted for crawling, but neither can climb. One manufacturer provides a tunnel which can be inclined or level and has handholds to aid the child in pulling themselves through. This would address upper body needs, but would not necessarily increase crawling activities. Many play areas use concrete culvert pipes and the like for tunnels; such pieces should be used with discretion, however, due to the hazard of hitting your head on them. Large tires might also be buried to form a tunnel.

> Let's record the tunnel as having a primary function of crawling and not record any secondary functions such as climbing or upper body. Depending on the specific item selected, of course, we might want to change this evaluation.

Now we need to return to the Equipment/Activity Matrix shown in TABLE II. We have nine different types of playground equipment [and recognizing the variety within those types, we know that we could have had twenty or thirty different types] scored on six different activities which we feel are relevant to the four clients at our facility. Now we need to combine the information shown in our Client/Activity Matrix (TABLE I) with the information shown in the Equipment/Activity Matrix (TABLE II). This has been done in TABLE III which is called the Client/Equipment Match-up. In order to see how this table was created, let's use the example of swings.

> How beneficial are swings likely to be for Andy, Betty, Charles, and Diane? We can get an idea by looking at the column for swings in the Equipment/Activity Matrix (TABLE II). The primary function of swings, as identified when we reviewed the catalogs, is swinging. Is swinging an activity which is relevant to our clients? To find out, we return to the Client/Activity Matrix (TABLE I) and look across the row for swinging. There we find an "A" for Andy (meaning that he can engage in that activity with assistance but that it isn't targeted for him at this time), no entry for Betty (meaning that it isn't a relevant activity for her at this time), a "[I]" for Charles (meaning that he can engage in this activity without assistance and it is targeted for increased development), and an "X" for Diane (meaning that we want to discourage swinging due to her history of seizures). In TABLE III, you can see that the first row for swings is labelled with a "P" (for primary function) and that the entries from TABLE I are duplicated — "A" for Andy, blank for Betty, [I] for Charles, and X for Diane. Referring again to TABLE II, we see that a secondary function of swings is upper body. Returning to TABLE I, we see that upper body is relevant only for Andy. He is targeted for this activity, but can't do it yet, even with assistance. Remembering our options on swing seats, many of them didn't provide upper body activities. We might want to stop at this point to consider which seat would be selected and change our information accordingly. For our example, we will skip this step.

By applying the process described for the swings, you should be able to reproduce TABLE III from the information in TABLES I and II. The Client/Equipment Match-Up (TABLE III), then, has our information arranged by client and by type of equipment. What we need at this point is a means for comparing the different pieces of equipment. Which one is the most useful given our population? The scoring rule I am suggesting in this paper is essentially arbitrary. It seems to make a certain amount of intuitive sense, but you should not accept it as gospel! In your evaluation of equipment appropriateness, you should feel free to experiment with other scoring rules if you feel that would help do a better job of selection. In any event, do not assume that the summary scores allow you to stop thinking. Working through the process should highlight questions that need to be resolved and issues that are important. If you don't use your judgment on these questions as they arise, you'll miss much of the benefit of working through the analysis.

The scoring rule is as follows: for each piece of equipment, count the total number of I's, A's, [ ]'s, and X's. Also, count the number of children who would not get any benefit from having the equipment. Recognize that blank spaces don't mean that a given client will NEVER get any benefit from this equipment — just that in our judgment (when we constructed TABLE I), we didn't feel that this activity was relevant at this time.

> For swings, we see that Andy and Charles have I's, Andy and Diane have A's, Andy, Betty, and Charles have [ ]'s, and Diane has an X. There is no one for whom the equipment would be irrelevant.

This information is recorded in the SUMMARY EVALUATIONS part of TABLE III. Based on this information, we can now make preliminary comparisons of the appropriateness of the equipment for our clients.

The first question we might ask is — "Which piece of equipment offers the most [ ]'s?" It is the one which might be the most beneficial in a therapeutic sense. We might, however, be more interested in using the equipment for "free play". In that event, we would want the equipment which had the most I's. Similarly, if we wanted to minimize potential supervision problems, we would reject any equipment which had an I combined with an X, because a child would be able to do something we wanted to discourage.

Assuming that we are trying to maximize the [ ]'s, the Swinging Bridge, with six targets spread across all four clients, would seem to be our clear, first choice. It apparently has "something for everybody". But one of our clients also has an X along with the target. We need to identify the source of that X. From TABLE III, we see that it was for Diane and when we formed TABLE I we were concerned about seizures. The question becomes, then, "Are seizures likely for Diane when on the Swinging Bridge . . . when supervised?" We know that she will be supervised because she can't engage in the activity without assistance. We may need to contact the manufacturer or the sales rep in order to get the information on the amount of motion likely. If seizures are likely to be a problem (based on our updated information), the swinging bridge is a good choice for three of the four clients. It would have five targets for three clients and would still be better than the other equipment choices.

Let's assume for the moment that we have decided that seizures probably won't be a difficulty. If we have money left in our budget after acquiring the Swinging Bridge, what is the next piece of equipment we should select? Several of the remaining pieces have three targets; swings, whirl, sand area, balance beams, and slide. Of these, the balance beams might be preferred since it has no X's.

But don't forget that we have selected the Swinging Bridge. Some of the desired activities are now going to be addressed. What activities has that acquisition provided that the balance beams might duplicate? To find the answer, we have to go back to TABLE II, the Equipment/Activity Matrix. We see that the Swinging Bridge will take care of "balancing" for Betty, Charles, and probably Diane. Depending on the actual design (that is, how they access the bridge) it may have taken care of "climbing" for Andy and Betty. We need to recheck the catalog descriptions to see if these activities have really been taken care of. Depending on the amount of sway to the bridge, we may also have addressed the need for "swinging" for Charles.

> Notice, however, that if it takes care of swinging for Charles, it is more likely to cause seizures for Diane UNLESS IT IS ADJUSTABLE. Again, go back to the catalog to update your information. If it is an important enough issue, contact the manufacturer or sales rep.

IT SHOULD BE APPARENT THAT THE MAJOR BENEFIT WE ARE NOW DRAWING FROM OUR PROCESS IS THAT IT IS FOCUSSING OUR ATTENTION ON QUESTIONS THAT MUST BE ANSWERED.

That is, it is giving us a structure for our thinking about the possible issues which will make a difference between valuable equipment and questionable equipment. It is showing us which aspects of given equipment cause it to be beneficial for one client at the expense of another or, conversely, which aspects of equipment need to be pursued most directly in order to make that equipment appropriate for all of our clients.

To continue the analysis, we need to remove the effects of deciding on acquiring a swinging bridge. By returning to TABLE II we can see that the primary function of the swinging bridge is "balancing". Looking across that row (still in TABLE II), we see that the only other piece of equipment addressing that function is the Balance Beams. From TABLE I we see that "balancing" has three A's and three [ ]'s. In TABLE III, the Client/Equipment Match-Up, we can find the row for the balance beams and cross out the three A's and the three [ ]'s. Updating the Summary Evaluations, we now record zeros for all columns for the balance beams. But the swinging bridge had other effects on our analysis — climbing and swinging warranted "?'s". If we have decided that the Swinging Bridge actually selected has addressed these activities, we need to remove them from our tables. From TABLE II, climbing was an activity related to the horizontal ladder, the climber, and the slide. In TABLE I, climbing had two A's, two [ ]'s, and two blanks. We need to cross those out of TABLE III for the horizontal ladder, the climber, and the slide making sure that we eliminate rows which have the same pattern of entries — [ ] [A] -- --

Continuing this process would result in a new Summary Evaluation as shown in TABLE IV. Now the sand area begins to look like the best choice. Before removing the effects of adding the swinging bridge to our play area, the sand area was just one in a crowd of possible pieces. We now might have some questions about the sand, because it has an "X" combined with an "I". Hopefully you can now see how that question can be attacked. Go back to the Equipment/Activity Matrix in TABLE II to find which activity generated that entry and then go to the Client/Activity Matrix in TABLE I to see which client presents the potential problem. Analyze the prospects for that difficulty with this particular equipment and make your decisions.

You should continue this process of adding equipment, removing the effects of that equipment, updating available funds until your budget is exhausted . . . or until you are!

Going back to the earlier options of selecting from existing equipment, having special equipment designed for you, or doing it yourself, you can see that we have really concentrated on the first option. However, even if you can't find a swinging bridge which fits your exact needs, recognize that you are much better off for having gone through the analysis. You now can do one of the following:

1) Go to a manufacturer with a specific statement of a new swinging bridge that they should consider producing. One with an opportunity for climbing at one end. One which is adjustable in the degree of bounce or sway.

2) You can buy the swinging bridge which comes closest to your needs and buy an appropriate climber or other equipment to interface with it at one or both ends.

3) Or you can enlist volunteers to modify a purchased bridge or build a complete unit to fit your needs. Now that you know just what it is that you need, you will have an easier time of making one for yourself.

Knowing what you need is half the battle.

Remember that "Client" can mean current individuals, current groups of similar individuals, or hypothetical future individuals. "Activities" can be taken directly from such models as the Behavioral Characteristics Progression, from your own imagination, or from whatever format used in your facility. The definition of "Equipment" is similarly open to your influence. You can call all "swings" the same or you can distinguish between dome climbers, round log climbers, and flat beam climbers. You can even compare product #12345 from manufacturer ABC with product #67890 from manufacturer XYZ.

The process presented here is simply one suggestion for structuring your approach to thinking about equipment selection. If you have any questions about the application of the process or about sources of any of the equipment I have mentioned, please contact me. My address is

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TABLE I: Client

Activity	ANDY	BETTY	CHARLES	DIANE
Climbing	[ ]	[A]		
Swinging	A		[I]	X
Balancing	A	[A]	[A]	[ ]
Crawling	I	XI	[A]	[ ]
Upper Body	[ ]			
Social	I	[ ]		A

CLIENT/ACTIVITY MATRIX

I = Does activity Independently

A = Does activity with Assistance

X = To be Discouraged

[ ]= To be Encouraged: A Goal

TABLE II: Equipment

Activity	Swing	Horiz.Ladder	Whirl	Sand Area	Climber	Balnce Bms	Swing Brdg	Slide	Tunnel
Climbing		S			P		?	S	
Swinging	P		?				?	?	
Balancing						P	P		
Crawling				S?					P
Upper Body	S	P	S		S				
Social	S		S	P					

EQUIPMENT/ACTIVITY MATRIX

P = Primary function of equipment

S = Secondary function of equipmen

? = Possible Use — Need More Information to Decided

TABLE III: Client

CLIENT/EQUIPMENT MATCH-UP

Equipment		ANDY	BETTY	CHARLES	DIANE
Swings	P:	A		[I]	X
	S:	[ ]	[ ]		
	S:	I			A
Horiz. Ladder	P:	[ ]			
	S:	[ ]	[A]		
Whirl	P:				
	S:	[ ]			
	S:	I	[ ]		A
	?:	A		[I]	X
Sand Area	P:	I	[ ]		A
	S?:	I	XI	[A]	[ ]
Climber	P:	[ ]	[A]		
	S:	[ ]			
Balnce Beams	P:	A	[A]	[A]	[ ]
Swing. Brdg	P:	A	[A]	[A]	[ ]
	?:	[ ]	[A]		
	?:	A		[I]	X
Slide	S:	[ ]	[A]		
	?:	A		[I]	X
Tunnel	P:	I	XI	[A]	[ ]

SUMMARY EVALUATIONS

I's	A's	[ ]'s	X's	# Who Can't Use
2	2	3	1	0
0	1	3/2	0	2
2	2	3	1	0
2/1	2	3	1	0
0	1	3/2	0	2
0	3	3	0	0
1	5/3	6/4	1	0
1	2	3	1	1
1	1	2	1	1

a/b = "a" # of values for "b" # of clients

Steps to Develop and Use the CLIENT/EQUIPMENT EVALUATIONS:

1) Determine which clients or groups of clients are to be considered.

2) Using I.E.P.'s, theoretical frameworks, or other means, enumerate the activities which you wish to consider.

3) Create the CLIENT/ACTIVITY MATRIX as shown in the example.

4) Create the ACTIVITY portion of the ACTIVITY/EQUIPMENT MATRIX.

5) Review as many catalogs of equipment as you can. For each piece of equipment listed —
   determine whether ANY value may exist;
   if value exists, record primary (P) and secondary (S) functions;
   if there are any questions, record "?" and jot down the issue.
   Separately, list the catalog name, page number, and model number of the equipment being considered. If there are several different manufacturers or models, record as much information as needed to locate the information if that equipment is evaluated positively.

   If the review of the equipment suggests activities which should be added to the CLIENT/ACTIVITY MATRIX, go back and revise it and update any equipment already recorded.

6) When all equipment you wish to consider has been recorded, create the CLIENT/EQUIPMENT MATCH-UP as follows:
   From the EQUIPMENT/ACTIVITY MATRIX, identify the primary function (P) of the equipment; that is, an activity.
   Go back to the CLIENT/ACTIVITY MATRIX and look at the entries for each client in the row corresponding to that activity.
   Record these entries in the CLIENT/EQUIPMENT MATCH-UP as shown in the example.
   Complete this process for all functions; primary, secondary, and "?" for the first piece of equipment.
   Do the same thing for the next piece of equipment under consideration until all have been recorded.

7) Develop the SUMMARY EVALUATIONS for each piece of equipment.
   Count the number of "I's" shown. If there is more than one "I" for a given client, show that by having two numbers with the first being the number of "I's" and the second being the number of clients having "I's" for that equipment.
   Then count the number of "A's", then the number of [ ]'s, and the number of "X's". If there are no entries for a client for that equipment or if the only entry is an "X", then they will not benefit from acquiring the equipment. Add up the number of such clients and record as "Can't Use".

8) Using the SUMMARY EVALUATIONS, select the piece of equipment which best fits your needs. If you want to use the equipment mostly for "free play", you should look first to the equipment which has the maximum number of "I's". If you want to use the equipment in therapy, maximize the number of [ ]'s. If you want to minimize supervision problems, avoid equipment with any "X's". If possible, make sure that at least some equipment will be appropriate for each client.

   In the event of nearly equivalent equipment, go back to the CLIENT/EQUIPMENT MATCH-UP to attempt to clarify differences. It may even be necessary to contact the sales rep before a decision can be made.

9) Once a piece of equipment has been decided on, update your budget limitation. If money is still available, remove the effects of having the new equipment from your evaluation by creating a new SUMMARY EVALUATIONS. You can cross-out entries in the CLIENT/EQUIPMENT MATCH-UP by referring to the activities covered by the acquired equipment as shown in the EQUIPMENT/ACTIVITY MATRIX.

7) Develop the SUMMARY EVALUATIONS for each piece of equipment.

Count the number of "I's" shown. If there is more than one "I" for a given client, show that by having two numbers with the first being the number of "I's" and the second being the number of clients having "I's" for that equipment.

Then count the number of "A's", then the number of [ ]'s, and the number of "X's". If there are no entries for a client for that equipment or if the only entry is an "X", then they will not benefit from acquiring the equipment. Add up the number of such clients and record as "Can't Use".

8) Using the SUMMARY EVALUATIONS, select the piece of equipment which best fits your needs. If you want to use the equipment mostly for "free play", you should look first to the equipment which has the maximum number of "I's". If you want to use the equipment in therapy, maximize the number of [ ]'s. If you want to minimize supervision problems, avoid equipment with any "X's". If possible, make sure that at least some equipment will be appropriate for each client.

In the event of nearly equivalent equipment, go back to the CLIENT/EQUIPMENT MATCH-UP to attempt to clarify differences. It may even be necessary to contact the sales rep before a decision can be made.

9) Once a piece of equipment has been decided on, update your budget limitation. If money is still available, remove the effects of having the new equipment from your evaluation by creating a new SUMMARY EVALUATIONS. You can cross-out entries in the CLIENT/EQUIPMENT MATCH-UP by referring to the activities covered by the acquired equipment as shown in the EQUIPMENT/ACTIVITY MATRIX.

For example, assume that we have decided to acquire a Slide. By looking back to TABLE II, we can see that a slide is related to two activities; climbing (S) and swinging (?). Looking across the row for "climbing" (still in TABLE II), we see that three other pieces of equipment under consideration are listed; horizontal ladder (S), climber (P), and swinging bridge (?). Starting with the horizontal ladder, return to TABLE III and locate the row of that matrix which describes the activities for "Horiz. Ladder S:". Cross out all entries in that row. Do the same for the climber by crossing out entries in the row labelled "Climber P:". For the swinging bridge, notice that two rows are marked with "?". Make certain that you get the correct row; it will have the same pattern of symbols in it as the other rows you have just marked out. That is, [ ] and [A]. Continue this process until all of the activities which are possible with the new equipment have been subtracted from your CLIENT/EQUIPMENT MATCH-UP. Then recount the I's, A's, etc. and develop a new set of SUMMARY EVALUATIONS. Continue this process until you have acquired the equipment you need and can afford.

TABLE IV: SUMMARY EVALUATIONS after removing the effects of acquiring the Swinging Bridge

Equipment	I's	A's	[ ]'s	X's	# Who Can't Use
Swings	1	1	2	1	0
Horiz. Ladder	0	0	1	0	2
Whirl	1	1	2	1	0
Sand Area	2/1	2	3	1	0
Climber	0	1	1	0	2
Balance Beams	0	0	0	0	0
Swinging Brdg	—	—	—	—	—
Slide	0	0	0	1	1
Tunnel	1	1	2	1	0

To further check your process, the following table assumes that the sand area has been selected next.

TABLE V: SUMMARY EVALUATIONS after removing the effects of acquiring the sand area

Equipment	I's	A's	[ ]'s	X's	# Who Can't Use
Swings	0	0	1	1	0
Horiz. Ladder	0	0	1	0	2
Whirl	0	0	1	1	0
Sand Area	—	—	—	—	—
Climber	0	0	0	0	2
Balance Beams	0	0	0	0	0
Swinging Bridge	—	—	—	—	—
Slide	0	0	0	1	1
Tunnel	0	0	0	1	0